

PRODUCT STEWARDSHIP SUMMARY

OFF ROAD ADDITIVES

Introduction

Afton Chemical Corporation's off road additives are designed to protect the enormously diverse range of equipment used in agriculture, mining, construction and other off road applications. Our additives are formulated to protect the drivetrains that operate under extreme force and load, the gears that need to run with optimal efficiency and control, and the hydraulic systems that operate power tools, as well as the brakes that are exposed to both internal and external contaminants. We formulate to the latest OEM specifications, enabling improved efficiency, longer ODI and emission reduction, while minimizing expensive, unplanned downtime.

Uses and Advantages

Afton Chemical Corporation's off-road vehicle additives are designed to formulate fluids that meet the needs of the transmissions, hydraulics, and axles/wet brakes used in modern equipment. Our robust technology safeguards gears against extreme pressure and wear under heavily loaded operating conditions. Sludge and varnish formation is reduced, keeping the moving parts clean even at elevated temperatures and long-term operation. The additives eliminate rust, corrosion, and the formation of deposits that may compromise the performance of the transmission and/or axle. Afton has also balanced the friction systems in the additives for robust friction stability in wet brake, pump, and transmission performance.

- Gear protection under extreme pressure
- Excellent friction durability performance
- Superior antiwear performance
- Resists deposit formation and breakdown from Heat and Oxidation
- Compatible with Commonly used Seal Materials
- Protects against yellow metal corrosion
- Excellent thermal and oxidative stability
- Very good handling and pumpability
- Good foam suppression
- Some offer cascadable treat rates for cost-effectiveness

Health Effects

Off Road additive packages can cause adverse health effects through skin contact or inhalation from breathing vapors or mists. Health effects vary depending on the specific components in the additive package but may include irritation of skin and eyes as well as skin sensitization. Most of the additive packages contain components that cause reproductive effects following exposure to high doses or for extended periods of time. A small number of additive packages are classified as carcinogenic due to constituents within the solvent. However, the majority of Off Road additive packages are not classified for carcinogenicity. These additive packages are not expected to be mutagenic or cause organ effects following long term exposure.

Environmental Effects

These additives are generally classified as Harmful to the Environment with long-lasting effects, although a few are classified as toxic to aquatic life with long lasting effects. Some contain components that may be persistent in the environment. However, they are unlikely to be bioaccumulative and are not classified as PBT (Persistent, Bioaccumulative and Toxic) or vPvB (very Persistent very Bioaccumulative).

Exposure

For industrial workers, the most common route of exposure is via skin contact during manufacturing and processing. The extent of exposure can depend on the type of manufacturing system (open or enclosed), adequacy of engineering controls, material handling practices, and use of personal protective equipment. Handling at elevated temperatures or generating vapors or mists can increase inhalation exposure which is otherwise not considered a significant route of exposure.

For professional and consumer use, the primary route of exposure is via skin contact with finished oils and fluids, which can occur during fluid changes or when adding fluids to vehicles and equipment. Inhalation is not generally a concern for professional and consumer use. Exposure to the additives is less in the finished lubricant due to their reduced concentration. Many lubricants are either not classified as hazardous according to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) or have relatively low hazard classifications compared to the additive package.

Risk Management

Afton's additives are formulated to meet a wide range of performance requirements. The health and environmental risks of these products can vary depending on the product as well as the conditions encountered during their use. Information on the safe handling of these products is provided to users through the safety data sheets. Appropriate engineering, administrative controls (work practices), and personal protective equipment are recommended to control exposures during manufacture and use.

Conclusion

Afton's additives deliver superior performance across driveline applications by reducing end-user costs, enhancing reliability, and increasing the durability of their off road additives. Afton is committed to providing its customers with the information they need to responsibly manage any safety, health, and environmental risks associated with the intended use of Afton products.

For additional information, contact us at:

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